

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/012181 A2

- (51) International Patent Classification⁷: **C02F**
- (21) International Application Number:
PCT/US2004/024274
- (22) International Filing Date: 28 July 2004 (28.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/491,007 29 July 2003 (29.07.2003) US
- (71) Applicant (for all designated States except US): **FMC CORPORATION** [US/US]; 1735 Market Street, Philadelphia, PA 19103 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **SETHI, Dalbir, S.** [CA/US]; 184 Plainsboro Road, Cranbury, NJ 08512 (US). **SESSA, Frank, C.** [US/US]; 126 East Waverly Road, Wyncote, PA 19095 (US). **KINSMAN, Lawrence, J.** [US/US]; 3550 Breckenridge Court, Apt. 2, Madison, WI 53713 (US). **BLOCK, Philip, A.** [US/US]; 357 Willets Way, Chester Heights, PA 19061 (US).
- (74) Agents: **SHEEHAN, John, et al.**; FMC Corporation, 1735 Market Street, Philadelphia, PA 19103 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: TREATMENT OF ENVIRONMENTAL CONTAMINANTS

(57) Abstract: Contaminants, such as volatile organic compounds, are removed from an environmental medium, such as contaminated soil, rock, groundwater, waste water and the like, by treatment with a combination of a persulfate, such as a sodium persulfate, and hydrogen peroxide.

WO 2005/012181 A2

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/012181 A3

(51) International Patent Classification⁷: **B09B 01/00**

(21) International Application Number:
PCT/US2004/024274

(22) International Filing Date: 28 July 2004 (28.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/491,007 29 July 2003 (29.07.2003) US

(71) Applicant (for all designated States except US): **FMC CORPORATION** [US/US]; 1735 Market Street, Philadelphia, PA 19103 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SETHI, Dalbir, S.** [CA/US]; 184 Plainsboro Road, Cranbury, NJ 08512 (US). **SESSA, Frank, C.** [US/US]; 126 East Waverly Road, Wyncote, PA 19095 (US). **KINSMAN, Lawrence, J.** [US/US]; 3550 Breckenridge Court, Apt. 2, Madison, WI 53713 (US). **BLOCK, Philip, A.** [US/US]; 357 Willets Way, Chester Heights, PA 19061 (US).

(74) Agents: **SHEEHAN, John, et al.**; FMC Corporation, 1735 Market Street, Philadelphia, PA 19103 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
1 September 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TREATMENT OF ENVIRONMENTAL CONTAMINANTS

(57) Abstract: Contaminants, such as volatile organic compounds, are removed from an environmental medium, such as contaminated soil, rock, groundwater, waste water and the like, by treatment with a combination of a persulfate, such as a sodium persulfate, and hydrogen peroxide.

WO 2005/012181 A3